CLAIMS

1. A transmittable light-scattering sheet which comprises a light-scattering layer composed of a plurality of polymers varying in refractive index and having at least a droplet phase structure.

2. A transmittable light-scattering sheet according to Claim 1, wherein an incident light is diffused isotropically, and a maximum value of scattered light intensity appears at a scattering angle of 3 to 40°.

3. A transmittable light-scattering sheet according to Claim 1, wherein an average diameter of droplets in the droplet phase structure is 0.1 to 20 μm.

4. A transmittable light-scattering sheet according to Claim 1, wherein an average distance between droplet centers is 0.5 to 15 μm and a standard deviation of the average distance is 40 % or less of the average distance in the droplet phase structure.

5. A transmittable light-scattering sheet according to Claim 1, wherein the proportion of droplets in the droplet phase structure is 30 to 70 volume % based on the whole light-scattering layer.

6. A transmittable light-scattering sheet according to Claim 1 which comprises a light-scattering layer scattering an incident light isotropically, wherein the light-scattering layer expresses maximum values of a scattered light intensity at two scattering angles.

7. A transmittable light-scattering sheet according to Claim 6, wherein a smaller angle θa of the maximum value is 2 to 20° in the scattered light intensity.

8. A transmittable light-scattering sheet according to Claim 6, the ratio of a smaller angle θa to a larger angle θb of maximum values is θb/θa = 1.5 to 10.

9. A transmittable light-scattering sheet according to Claim 6, wherein the light-scattering layer has at least a droplet or an island-in an ocean phase structure, and a distribution of particle size of dispersed phase in the phase structure has two peaks at different average particle sizes.

10. A transmittable light-scattering sheet according to Claim 1, wherein a total light transmittance is 70 to 100 %.

11. A transmittable light-scattering sheet according to Claim 1, wherein a difference between refractive indexes of a plurality of polymers is 0.01 to 0.2.

12. A transmittable light-scattering sheet according to Claim 1, wherein a plurality of polymers comprises a first polymer and a second polymer selected from a styrenic resin, a (meth)acrylic resin, a vinyl ester-series resins, a vinyl ether-series resin, a halogen-containing resin, an alicyclic olefinic resin, a polycarbonate-series resin, a polyester-series resin, a polyamide-series resin, a silicone-series resin, a

cellulose derivative and a rubber or an elastomer, and the ratio of the first polymer to the second polymer is the former/the latter = 10/90 to 90/10 (weight ratio).

13. A transmittable light-scattering sheet according to Claim 1, wherein at least one polymer comprises s a cellulose ester.

14. A transmittable light-scattering sheet according to Claim 1, wherein at least one polymer comprises a cellulose acetate.

15. A transmittable light-scattering sheet according to Claim 1, which has a phase separation structure composed of a plurality of polymers varying in refractive index, wherein the phase separation structure is formed by spinodal decomposition from a liquid phase comprising a plurality of polymers.

16. A transmittable light-scattering sheet according to Claim 1, which comprises a transparent support and the light-scattering layer laminated on at least one side of the transparent support.

17. A transmittable light-scattering sheet according to Claim 16, wherein the transparent support is optically isotropic.

18. A transmittable light-scattering sheet according to Claim 16, wherein the transparent support comprises cellulose acetate film.

19. A process for producing a light-scattering sheet, which comprises removing or evaporating a solvent

from a liquid mixture composed of a plurality of polymers varying in refractive index to form a light-scattering layer having at least a droplet phase structure due to spinodal decomposition.

20. A process according to Claim 19, which comprises applying the liquid mixture on a transparent support and removing a solvent in the liquid mixture to form a phase separation structure.

21. A process according to Claim 19, which comprises applying a solution, in which a plurality of polymers varying in refractive index is dissolved homogenously, on a cellulose acetate film coated with a coating layer having solvent-resistance, and removing a solvent in the solution to form a droplet phase structure due to spinodal decomposition.

22. A reflective liquid crystal display unit which comprises a liquid crystal cell having a liquid crystal sealed therein, a reflecting means for reflecting an incident light disposed behind the liquid crystal cell, and a light-scattering sheet recited in Claim 1 disposed forwardly of the reflecting means.

23. A reflective liquid crystal display unit according to Claim 22, wherein a polarizing plate is disposed forwardly of the liquid crystal cell, and a light-scattering sheet recited in Claim 1 is disposed between the liquid crystal cell and the polarizing plate.

24. A reflective liquid crystal display unit ac-

cording to Claim 22, which comprises a liquid crystal cell having a liquid crystal sealed therein, a reflecting means for reflecting an incident light disposed on one side of the liquid crystal cell, a polarizing means for polarizing an reflective light is disposed on the other side of the liquid crystal cell, and a light-scattering sheet recited in Claim 1 disposed between the liquid crystal cell and the polarizing means.